SANTA CRUZ BIOTECHNOLOGY, INC.

TRβ1 (J52): sc-738

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Thyroid hormone nuclear receptors (TRs) are ligand-dependent transcription factors which regulate growth, differentiation and development, and represent members of the steroid/retinoic acid superfamily. The two genes encoding TRs identified to date, TRα and TRβ, have been mapped to human chromosomes 17 and 3, respectively. TRs bind to thyroid hormone response elements (TREs) with half-site binding motifs in the orientation of palindromes, direct repeats or inverted palindromes. The affinities of binding are both variable and influenced differentially by 3,5,3'-triiodo-L-thyronine (T3). Transcriptional regulation by TRs is also modulated by heterodimerization with TR nuclear accessory proteins, the most extensively characterized of which are the retinoid X receptors (RXRα, RXRβ and RXRγ). The TRβ isoform TRβ1 forms a complex with the PI 3-kinase p85α subunit and plays an important role in the T3-induced activation of Akt in pancreatic β cells.

CHROMOSOMAL LOCATION

Genetic locus: THRB (human) mapping to 3p24.2; Thrb (mouse) mapping to 14 A2.

SOURCE

TRβ1 (J52) is a mouse monoclonal antibody epitope mapping to the C-terminal half of the A/B domain of the thyroids hormone receptor β1 of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin. Also available as TransCruz reagent for Gel Supershift and ChIP applications, sc-738 X, 200 µg/0.1 ml.

APPLICATIONS

TRβ1 (J52) is recommended for detection of TRβ1 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)] and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for TRβ1 siRNA (h): sc-38890, TRβ1 siRNA (m): sc-38891, TRβ1 shRNA Plasmid (h): sc-38890-SH, TRβ1 shRNA Plasmid (m): sc-38891-SH, TRβ1 shRNA (h) Lentiviral Particles: sc-38890-V and TRβ1 shRNA (m) Lentiviral Particles: sc-38891-V.

TRβ1 (J52) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight of TRβ1: 55 kDa.

Positive Controls: C32 whole cell lysate: sc-2205, SK-BR-3 nuclear extract: sc-2134 or TRβ (h): 293T Lysate: sc-369818.

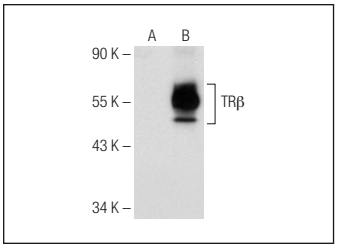
STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

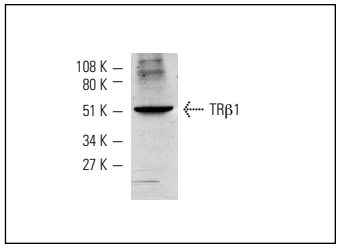
RESEARCH USE

For research use only, not for use in diagnostic procedures.

DATA



TRβ1 (J52): sc-738. Western blot analysis of TRβ expression in non-transfected: sc-117752 (**A**) and human TRβ transfected: sc-369818 (**B**) 293T whole cell lysates.



TRβ1 (J52): sc-738. Western blot analysis of TRβ1 expression in C32 whole cell lysate.

SELECT PRODUCT CITATIONS

1. Sasaki, S., et al. 1999. Ligand-induced recruitment of a histone deacetylase in the negative-feedback regulation of the thyrotropin β gene. EMBO J. 18: 5389-5398.
2. Thakran, S., et al. 2013. Role of sirtuin 1 in the regulation of hepatic gene expression by thyroid hormone. J. Biol. Chem. 288: 807-818.
3. Suh, J.H., et al. 2013. SIRT1 is a direct coactivator of thyroid hormone receptor β1 with gene-specific actions. PLoS ONE 8: e70097.
4. Sharma, P., et al. 2013. Nuclear corepressors mediate the repression of phospholipase A_2 group IIa gene transcription by thyroid hormone. J. Biol. Chem. 288: 16321-16333.
5. Wang, Y., et al. 2013. Protective effect of taurine on down-regulated expression of thyroid hormone receptor genes in brains of mice exposed to arsenic. Adv. Exp. Med. Biol. 775: 155-166.
6. Perrotta, C., et al. 2014. The thyroid hormone triiodothyronine controls macrophage maturation and functions: protective role during inflammation. Am. J. Pathol. 184: 230-247.
7. Navas, P.B., et al. 2014. Luteal expression of thyroid hormone receptors during gestation and postpartum in the rat. Thyroid 24: 1040-1050.
8. Tamaki, S. and Tokumoto, Y. 2014. Overexpression of cyclin dependent kinase inhibitor P27/Kip1 increases oligodendrocyte differentiation from induced pluripotent stem cells. In Vitro Cell. Dev. Biol. Anim. 50: 778-785.
9. Shinderman-Maman, E., et al. 2015. The thyroid hormone-$\alpha_v\beta_3$ integrin axis in ovarian cancer: regulation of gene transcription and MAPK-dependent proliferation. Oncogene 35: 1977-1987.

CONJUGATES

See **TRβ1 (J51): sc-737** for TRβ1 antibody conjugates, including AC, HRP, FITC, PE, Alexa Fluor® 488 and Alexa Fluor® 647.